

**IN THE UNITED STATES DISTRICT COURT FOR  
THE NORTHERN DISTRICT OF GEORGIA  
ATLANTA DIVISION**

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**DONNA CURLING, et al.**

**Plaintiff,**

**vs.**

**BRAD RAFFENSPERGER, et al.**

**Defendant.**

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**CIVIL ACTION FILE NO.:  
1:17-cv-2989-AT**

**SUPPLEMENTAL DECLARATION OF ELIZABETH THROOP**

**LIZ THROOP** declares, under penalty of perjury, pursuant to 28 U.S.C.

§ 1746, that the following is true and correct:

1. My name is Elizabeth Throop.
2. I have personal knowledge of all facts stated in this declaration and, if called to testify, I could and would testify competently thereto.
3. I am a registered voter in DeKalb County, Georgia.
4. This declaration supplements my Declarations of December 15, 2019, (Doc. 680-1 at 82); March 11, 2020 (Doc. 723 at 14); August 2, 2020 (Doc. 755 at 101); August 24, 2020 (Doc. 809-8); and February 9, 2021 (Doc. 1071-6).

5. I am an active member of Coalition for Good Governance, (“CGG”). I don’t track my time spent volunteering for CGG but it’s probably 12 hours every week. In addition to those hours spent on obviously productive tasks, I am always informally searching for and reading relevant news stories about election equipment and election security, which I share with other particularly active CGG members who have expressed an intense interest in following election-related news on a national level as well as the Georgia level.

6. CGG’s challenge to the BMD voting system has absorbed the majority of my volunteer time for CGG. The challenge of the system, and certainly the litigation is not the preferred use of my time and donations to CGG. Things I want to be doing with my volunteer time for CGG instead of work relevant to *Curling v. Raffensperger* include studying challenges for low-literacy voters and developing ways to address them, preferably in an effort supported by CGG; researching how SB202 has impacted counties and voters and proposing mitigation; working up and lobbying for new election and transparency-related legislation and proposed new rules for SEB; helping produce webinars for candidate and voter education; and improving CGG's website and graphics.

7. I’ve spent many hours supporting CGG’s efforts in challenging the BMD system. This has involved attending rollout events for Georgia’s voting

system; transcribing SEB meetings for relevant BMD system information; reviewing court proceedings to support research requests; attending in-person and virtual court hearings; poring through document production to provide attorneys with requested information; and poll watching, including some overnight trips, to understand the Dominion system and its impact on voters and to collect evidence for the lawsuit; making illustrations of polling place arrangements and BMD screens to illustrate ballot secrecy violations; and attending LAT and post-election ballot processing to understand security and logistical challenges of Dominion Democracy Suite equipment and document evidence of its shortcomings.

8. Focusing on equipment security issues has prevented me from conducting my original purpose for poll watching, which was to find out whether voters are dissuaded or prevented from casting their votes due to challenging forms, notices, and ballots. As a graphic designer and design academic, I feel I could contribute to CGG's and the public's understandings of how diverse populations process such documents, and implement a CGG project, perhaps with partner organizations, to address such needs.

9. A major concern I have with the BMD voting system is the lack of voter privacy. I heard the alarm and surprise from poll workers in Douglas County when polls opened on the first day of voting in the 2019 pilot. They were

encountering, for the first time, the large vertical screens of the Dominion BMDs in the context of actual voters. I was also alarmed and wanted officials to understand the problem, so I recreated life-size paper versions of BMD screens to show at the November 2019 Fulton and DeKalb County boards of elections so everyone could see the views over voters' shoulders of their BMD screens. In doing so, and even with my extensive experience as a signage designer, it quickly became clear to me that, because of the touchscreen design, I would be unable to design and propose feasible solutions to local officials for the installation the touchscreens that would protect the voter's votes from public visibility in many polling place facilities.

10. Since the Dominion voting system was piloted in 2019, I have spent over 100 hours as an observer and poll watcher in multiple counties, generally at CCG's request. Much of my attention has been focused on the lack of privacy created by those BMD touchscreens. In my hours of discussions with poll managers in multiple counties concerning the touchscreen design privacy problem, none have disagreed or proposed a feasible solution. I helped gather and edit photos of polling places for CCG's HAVA complaint about voter privacy.

11. In early 2020, the SOS office sent out guidance to counties on how to arrange the machines to purportedly be more private, and in February 2020 I made

new graphics based on their diagrams to show the SEB that the recommended arrangements were not, in fact, feasible or effective in ensuring voter privacy. Using my expertise and tools as a graphic designer, I also proposed revised floorplans of nine Athens-Clarke County polling places when the privacy of their voting machines was at issue, to show their Board of Elections the problems with providing ballot secrecy with the current BMD touchscreen equipment.

12. The SOS training material entitled, “Precinct Layout to Aid with Privacy Training” that was sent to counties in Spring, 2020, (Doc. 716-3 at 8-13), about how to arrange equipment to increase voter privacy, has not been adopted in the many polling places I have observed. My discussions with county election officials and other poll observers consistently indicate that the instructions do not generally improve privacy.

13. Page 2 of that booklet (*Id.*) shows “Ineffective/bad precinct layout – BMDs exposed to view” in which BMD screens face the center of the room, toward poll workers and waiting voters. Pages 3 and 4 show “effective/preferred” layouts in which BMD screens are turned to face the back wall or turned perpendicular to waiting voters and poll workers.

14. About half the polling places I have personally observed since that guidance was issued still use the “ineffective/bad” room arrangement with BMD

screens facing the center of the room – often due to limited space or electrical supply.

15. Exhibit 1 is a document I created marking up the Secretary of State’s guidance layouts to represent the practical problem with the proposed layouts. Page 1 of Exhibit 1 reproduces the Secretary of State’s layouts as originally issued. (Doc. 716-3 at 8-13) On Exhibit 1 page 2, I have placed additional markings in bold arrows on a copy of the Secretary’s layout to illustrate some of the problematic sight lines between voters and poll workers and BMD screens. My markings are based on my numerous observations of BMD equipment layout in polling places since October 2019, and my education and experience as a signage designer where sightlines are always a consideration.

16. I have also added bold arrows to show sight lines to the BMD screens in the Secretary’s “effective/preferred” layouts in the original guidance. My illustration on the Secretary’s page 3 layout demonstrates that voters can see the BMD screens of the voters next to them, as indicated by the bold arrows I have added. In most polling places that I have observed, there are no gaps between tables, meaning that voters are also likely to view BMD screens when entering and exiting their voting stations. Many of those polling places I have visited simply do

not have the available floor space to adequately spread out the machines. Power needs are also a consideration, where cord tripping hazards must be avoided.

17. In the SOS's recommended layout, poll workers are less able to observe BMD stations for tampering in my experience. Poll workers cannot monitor whether voters are pulling cords, inserting thumb drives, or even printing multiple ballots, unless they walk behind the row of BMDs, which compromises the privacy of people voting.

18. I have rarely seen the layout shown on Page 4 due to its generally unrealistic space requirements and electrical cord tripping hazards, but it also raises privacy issues because people view other peoples' BMD screens when going to or from their voting station or otherwise move about the room.

19. Exhibit 2 is a news photograph of the Cartersville, Georgia polling place published in the Atlanta Journal Constitution and archived by CGG on January 10, 2020. CGG members Rhonda Martin, Dr. Rich DeMillo, and Marilyn Marks told me that they visited this polling place which had this configuration. Based on my own observation of polling places, this photograph provides a good visual perspective consistent with my own observations of why voters positioned at side-by-side voting stations have a sightline to each other's screens and vote choices – not only as they are voting, but when they walk to their polling locations.

This shows why the provided blue privacy panels are not effective with upright touchscreens.

20. I observed the election at the Gwinnett County Elections Office polling place in Lawrenceville on March 5, 2020. Exhibit 3 at 1 is a photograph of this room that CGG obtained from a media article online. The photograph is an excellent representation of what I observed in that early voting room on March 5, 2020. My visit was after the Secretary of State had released the guidance February 13, 2020 (Doc. 716-3 at 8-13).

21. On the date of my visit, I drew the layout of Gwinnett's main polling place, and in my polling place observation notes I made that day, I described the lack of privacy caused by the arrangement their equipment. (Exhibit 3 at 2-3) Despite the facility being large and recently renovated, I could not determine how a voter could cast their vote secretly there with this arrangement.

22. I have had conversations with poll managers at Baconton (1/28/20), Rainbow Elementary (3/09/21), Woodridge Elementary (01/05/21), and Decatur Recreation Center (11/03/2020) about their frustrations regarding the near-impossibility of simultaneously allowing poll workers to monitor the Ballot Marking Devices to prevent tampering; connecting the machines to wall outlets



without presenting tripping hazards; fitting the required number of machines into the polling place; and allowing for voter privacy.

23. The 2022 Carter Center’s performance review of Fulton County Elections identifies the lack of privacy at polling places as one of Fulton’s five top problems.

([https://www.cartercenter.org/resources/pdfs/peace/democracy/u\\_s\\_elections/fulton-county-election-observation-report.pdf](https://www.cartercenter.org/resources/pdfs/peace/democracy/u_s_elections/fulton-county-election-observation-report.pdf) ) Carter Center suggests better arrangements of equipment be implemented, but provides no concrete suggestions. This is consistent with my experience that no one I have encountered has offered a solution to protect vote privacy and maintain visibility of the equipment to prevent tampering.

24. Based on my numerous observations, because of the great size and electrical demands of the BMDs, their arrangement in polling places is quite constrained – especially for wheelchair and walker accessible units. This results in the designated BMD station for the disabled most often being at the least private location in the room in the locations I have observed.

25. I consider my own privacy important, but I also value the privacy of all voters because I want people to be free to vote their true preferences without coercion or intimidation. Nevertheless, I consider the prohibition against

“intentional observation” in SB202 (creating a felony offense for viewing a voters’ touchscreen choices) to be problematic, misleading, and not effective at ensuring voter privacy, based on my polling place observations. For a known activist like myself, who frequently protests at the state capitol regarding a variety of officials’ actions and political decisions, the threat of a felony charge for inadvertently seeing a voter’s touchscreen selections while I am voting is particularly intimidating. That provision has made me less inclined to poll watch and more hesitant to engage certain poll officials when I observe a problem for fear that officials may use such a felony charge of touchscreen observation as retaliation against me. But it will make me more cautious of my surroundings and who is observing me as I am voting, given the risk of harassment of false felony allegations.

26. In June 2020 I was at DeKalb election offices to turn in a family member’s ballot, and had planned to stay and vote in person at Memorial Drive #2. The arrangement of that facility is crowded with side-by-side rows of machines facing other rows of machines and very limited entrance and egress. Voters must pass one another in a lane less than six feet wide, with BMDs on either side. It was impossible not to view screens of other voters or to protect one’s own screen from other peoples’ views. Exhibit 4 is a news photo of that polling place, taken on

October 13, 2022, according to the caption on the Atlanta Journal Constitution and reflects the equipment placement consistent with my personal observations. The photograph shows the arrangement of the equipment at that polling place, and the two women on the right side of the news photo will have each other's touchscreens in their ranges of vision, based on my experience standing at such units. Based on my poll observations in that room, the woman on the left is also likely to have been able to see the screens when she entered or left the area.

27. Given the extreme lack of privacy, I decided to leave Memorial Drive, where I had wanted to vote, and wait to vote at another polling place that could offer more privacy.

28. While watching how someone else casts their vote is abhorrent to me, I have repeatedly gotten wholly unintentional views of voters' touchscreens by just being in polling place, both during poll watching and while casting my own ballot. Because there are many touchscreen set ups at different locations in the polling place, even when I look away from one voter making selections, looking away causes me to catch another voter's touchscreen in my sightline. I have found it almost impossible and certainly impractical to completely avoid seeing voters' choices during the course of ordinary poll watching.

29. As a graphic designer, I've helped format slideshows for CGG to educate the public. CGG has presented these in webinars for state and national groups. I have also helped write and present this material. These webinars are wide ranging and have shared information on topics from best practices for poll watchers, to the role of the State Election Board, to the importance of audits. We communicate that there is much for a candidate or political leader to learn about Georgia elections. However, CGG has had to devote considerable time in these presentations to covering problematic aspects of Georgia's BMD voting system because that understanding is central to Georgia's ability to run accountable elections.

30. A significant part of my work for CGG has involved attending and participating in public meetings of election officials. I have attended monthly DeKalb Board of Registration and Elections ("BRE") meetings since 2019 to understand how the BRE thinks about and acts on privacy issues, cost issues, and LAT issues relevant to BMDs. I've written letters to the board of election members and county commissioners, met with my DeKalb County Commissioner, and repeatedly made public remarks about voting machine issues with the DeKalb BRE, urging them to consider alternatives to BMDs. I don't like that my DeKalb BRE comments almost always deal with shortcomings of voting equipment, rather

than all the other issues DeKalb BRE needs to focus on – but I consider moving to a hand-marked voting system to be an urgent matter. CGG could be providing a great resource to the DeKalb BRE in many other aspects of election administration and transparency, but the challenge to the voting system diverts the time available to do so.

31. I’ve also attended most State Election Board meetings since 2019, either in person or remotely and repeatedly contributed public comments. While voter access is very important to me, my comments have largely focused on some of the many issues related to Georgia’s Dominion voting system. My comments have been about:

- Protecting the pollbook database from bad actors, because changing voter addresses can prevent people from voting.
- Encouraging the SEB to delay its initial rollout of BMDs due to the system’s complexity.
- Ballot printouts being unreadable for many voters.
- Lack of inventory controls on Early Voting ballots when scanner bins get full.
- Lack of privacy when casting votes on BMDs.

- Lack of clarity about whether the readable printout or the QR code were the official vote.
- The need for voters to be able to drop off absentee ballots at polling places as an alternative to voting on BMDs.
- The need for up-to-date paper pollbooks at all polling places on election day, since Poll Pads can be slow or fail.
- The need to investigate why SOS instructed absentee voters to clog email systems with large image files without preparing counties.
- The need to count all visible votes, whether scanners count them or not.
- The need for SEB to clarify rights of public access at LAT. I also wrote to SEB Chair about this.
- The need for an SEB rule that counties should preserve CF memory cards, instead of overwriting them.

32. Except for 2020, when there weren't Covid vaccines, I have voted in person. I strongly prefer to vote in person so I can cast my own ballot, and see the scanner's public counter increase by one when my ballot is scanned. Nevertheless, voting in person has necessitated my voting on BMDs, causing a loss of my ballot secrecy, my general privacy, and creating doubts whether my vote has indeed

counted as I intended – given that I cannot read the QR code votes I am casting. My choice on the BMD printout, (before considering how it is counted), is concealed from me by an inscrutable QR code, which is the mark counted. Unlike voting on a hand marked ballot, if the QR code mark is recorded incorrectly, I cannot correct it, because I cannot detect the error. At best, I can review the natural language text of my choices, but I am aware from CGG experts’ work that the QR code may not match the text.

33. When I vote on BMDs, the touchscreen review function is not private, and the prompts for errors either over-voting a race or skipping a race are in the public view.

34. Despite the number of disadvantages of voting on a BMD system, I still choose to vote in person rather than incur the uncertainties of voting by mail ballot. Rather than getting to see my vote being cast, mail voting introduces the risk of late delivery, the risk of identity theft because of the new PII requirements and bad envelope design which exposes PII, and the need to frequently monitor the progress of the ballot application, issuance, and acceptance.

35. The state says that marking ballots via digital devices is secure if voters will review their printouts. However, the state’s efforts to promote such review have not been effective in facilitating the review of the printout based on

my polling place observations and personal experience. The SOS’s Poll Worker Manual<sup>1</sup> shows 16 signs that are required to be displayed in the voting area. One sign, shown on Page 12, is titled “BALLOT REVIEW” and directs voters to “Review your printed ballot to confirm your choices prior to inserting into scanner.”

36. Page 62 of the manual says:

*Polling Place Scanner Station*

*At this station,*

- *Voter returns voter card*
- *Voter is reminded to review their ballot*
- *The voter will cast their ballot by inserting into the scanner*
- *The screen will confirm that their ballot was cast*

*When a voter exits the enclosed space*

- *Voter receives their “I’m a Georgia Voter I SECURED MY VOTE” sticker*
- *Be sure to thank them for voting*

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<sup>1</sup><https://georgiapollworkers.sos.ga.gov/Shared%20Documents/Georgia%20Poll%20Worker%20Manual%202021.pdf>



37. Note that the poll worker manual says voters are reminded – without explicitly telling poll workers that they need to do the reminding. In observing at the polls, I very rarely hear poll workers reminding anyone to review their printouts. During poll watching I have sat right next to scanning station attendants without hearing them suggest to anyone that they review their ballot before scanning.

38. Another major drawback of my voting in person is that it can be hard or impossible for me to accurately review my ballot printout. Despite voting at several different early voting sites, I have never been reminded to review my ballot by poll workers. When I have tried to review my ballot, I have often been interrupted by one or more poll workers urging me to go scan my ballot.

39. Reviewing a ballot printout is a challenge for me. In November of 2022 there were 19 items on my ballot. In the May 24, 2022, Democratic Primary there were 40 – too many to memorize. The printout is merely a summary of who one voted for, but I often vote *against* a candidate, and I can't reliably recall the name of the candidate I actually voted for. While I've tried making cheat sheets to assist me, I have often lost track of them because I'm more focused on filling out forms, sharing my driver's license, and keeping track of my ballot access card and

printout. The need and requirement for me to review my ballot printouts is almost impossible for me to meet in long ballot elections.

40. Another factor in relying on a cheatsheet to review my ballot has to do with the general chaos of some elections. In 2022, the legislature changed DeKalb County Commission boundaries shortly before the Democratic Primary, making it hard to find out if I were still in Commission District 2. The incumbent District 2 Commissioner didn't announce he wouldn't seek reelection until a few days before the qualifying deadline, making it hard for me to get information on candidates for that seat. The SOS redesigned MVP March 30, and the site was giving erratic results in early April when I was trying to figure out who would be on my ballot in the May 24 Primary. The sample ballot shown on the county's website and at polling places is merely a generic ballot that lists all Commission races. When I went to vote on May 16<sup>th</sup>, I hadn't received my current precinct card (it would arrive a month later) and wasn't sure which Commission race I would be voting in until the (hopefully appropriate) Commissioner race appeared onscreen: In fact, it appeared that I had been drawn into another Commission district. Instead of comparing my printout to a cheatsheet I had written myself, I would have really liked to have compared it to a paper ballot that showed the races in my precinct, but that was not available.

41. Since the QR code is tabulated as the vote and most races are never audited or otherwise compared to readable text, reviewing my printout seems almost meaningless, anyway. Yet, it is my understanding that it is a legal requirement to review the ballot printout – a requirement that I’m not always adept at meeting, even as a conscientious voter.

42. Another problem with voting in person on Dominion’s system is that, at least in DeKalb County, it’s hard to know how long voting will take, or if one will get to vote at all if the wait is too long, particularly if there are pollbook issues, of the type I have observed. On Election Day, November 6, 2018, I poll watched at First Baptist Church of Fairburn for the Democratic Party. I was amazed by the high number of voters who, after waiting an hour or more in line, were told they were in the wrong polling place. I spoke to about a dozen of them as they left the church. Some told me they were very dismayed and would be unable to vote because they wouldn’t have time to get to their correct polling place before going to work. One man spoke to me convincingly about how he had moved to Oxford, Georgia, and was sure he had updated his registration, only to be turned away from the polls there: he had driven 50 miles to Fairburn to vote, since that’s where he told me that officials claimed he was registered, per electronic poll book records. One woman told me that she had been voting at the polling place regularly, but on

that day, she was told she was registered at her address from ten years previous, and was told that she was at the wrong polling location as a result

43. Subsequently, as a poll watcher I have talked to other voters who are convinced that incorrect information in poll worker databases has prevented them from voting a regular ballot at what they are convinced is their precinct.

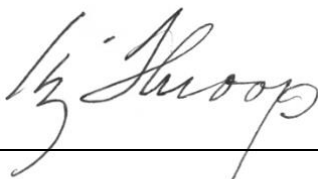
44. My polling place observations of check-in problems such as those in Fairburn detailed above are a reason I go to the effort to vote early and avoid Election Day voting, as the PollPads are used for verifying eligibility on Election Day. Voting on Election Day has many advantages such as the social value of voting in my neighborhood with friends and being able to wait until Election Day to make up my mind on candidate choices based on the most recent campaign news. However, electronic pollbook risk of disenfranchisement or voting delay is of more concern to me, causing me to avoid Election Day voting.

45. On December 6, 2022, Election Day of the Runoff, I asked the poll manager at Briarwood Recreation Center if she had an up-to-date paper copy of the pollbook in case the Poll Pads were to fail. She said she had just received a paper copy this morning that she had to sign for, but that it was dated November 8, 2022. She told me it listed all the voters in the precinct, but of course didn't indicate whether they had already voted during Early Voting or by Absentee in the

December runoff election. She said that if a voter couldn't be found on the Poll Pads (for instance if they were inoperable), she would have to phone the county to find out their eligibility status. She could not rely on the outdated paper pollbook.

46. Many shortcomings of Dominion's BMD system have been documented, particularly in this litigation, but I find that the complexity of the system and related problems are difficult to communicate to decision makers. For example, in 2021 I spoke to the legislature's Special Commission on Election Integrity and wrote their chair about a provision in SB202 requiring counties to use expensive security paper for mail ballots. I explained that Dominion central scanning devices don't seem to have any mechanism to detect such security paper and would read plain copy paper, so the measure would be pointless and escalate the cost. While no one refuted what I said, the provision stayed in the bill and counties now bear the expense.

Executed on this date, February 7, 2023.

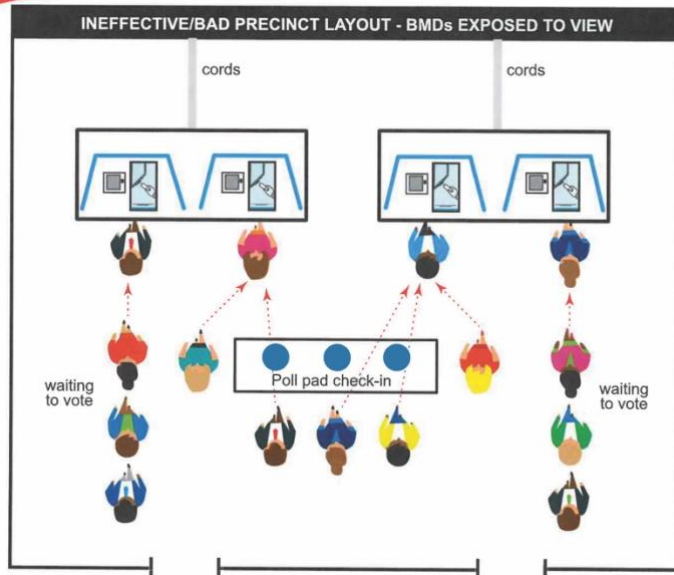
  
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Elizabeth Throop

# EXHIBIT 1

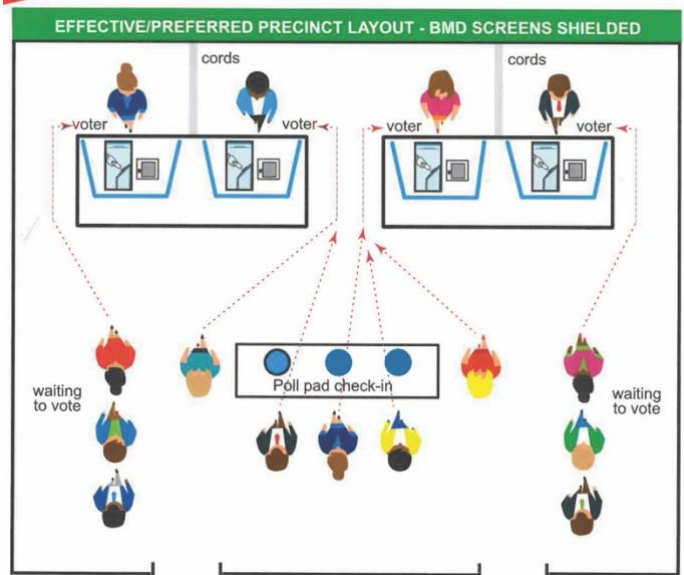
## Exhibit 1

Pages from SOS training material (Doc. 716-3 at 11-13) showing recommended room arrangements.

### Page 2



### Page 3



### Page 4

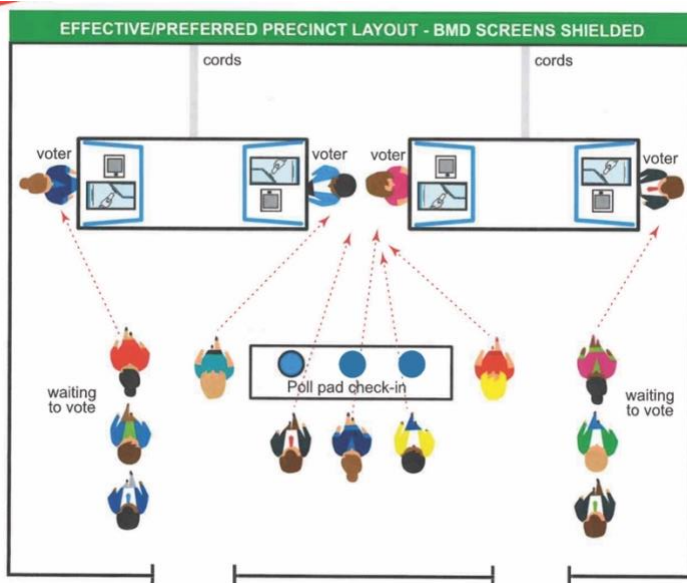
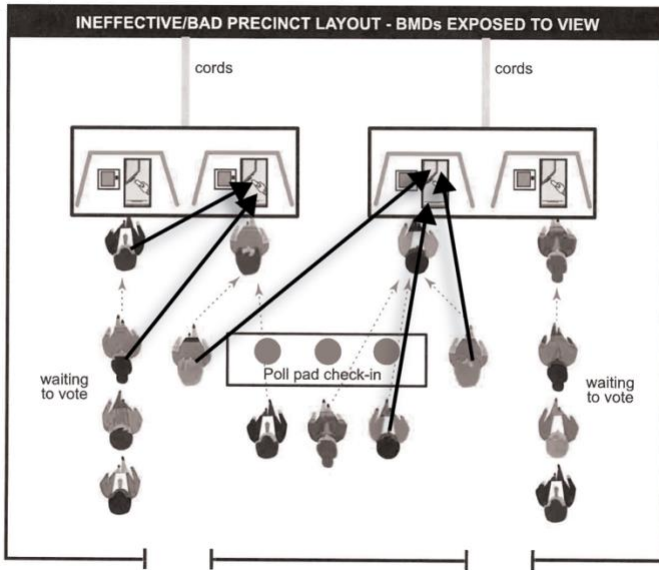


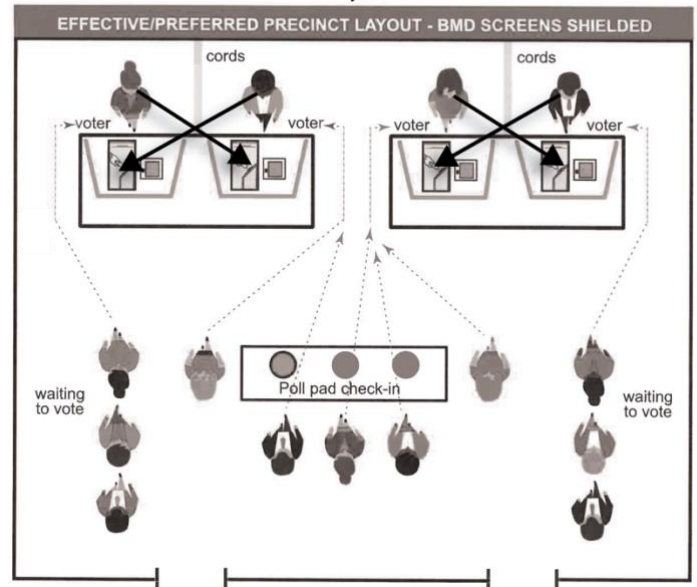
Exhibit 1 page 2

Throop mark up of SOS training material showing sightlines of voters and poll workers toward BMD screens. Bold arrows added by declarant.

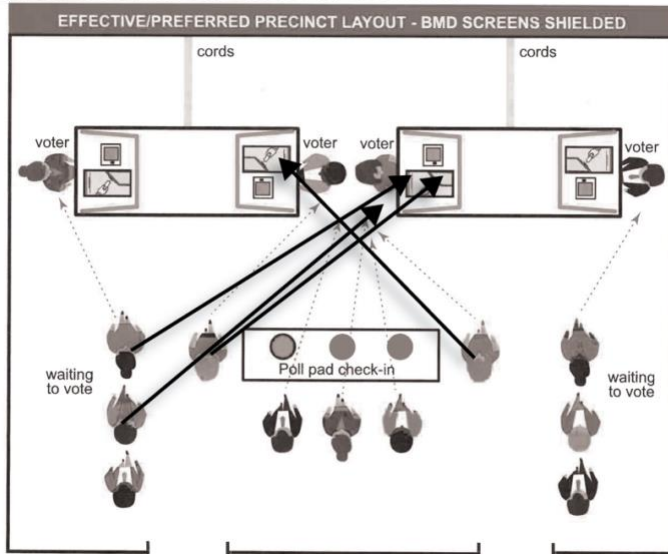
PAGE 2: Bold arrows added by declarant.



PAGE 3: Bold arrows added by declarant.



PAGE 4: Bold arrows added by declarant.





# EXHIBIT 2

Exhibit 2  
Cartersville Polling Place



# EXHIBIT 3

Exhibit 3 page 1

Press photo of polling place at Gwinnett Elections office, 455 Grayson Highway, Lawrenceville



## Exhibit 3 page 2

### Description of equipment arrangement at Gwinnett polling place

Poll watching for Early Voting for PPP March 5, 2020  
Liz Throop

On Thursday, March 5, 2020, I observed the polling place at Gwinnett County Elections office on Grayson Highway about 5:15 pm. I was permitted to stand behind the guard rail in the voting area. It was arranged with four banks of six BMDs, plus two more BMDs in the southwest corner (26 BMDs). The two banks in the center faced one another, about 10 feet apart. There was a half-wall dividing these two banks of BMDs, but it was low enough that it did not block the views from one group of machines to the other. The BMDs in the back of the room faced the back wall – but that wall had windows, allowing views from an administrative office. There wasn't anyone in that office while I was visiting, but workers in that office could watch people voting from less than ten feet away, and probably without voters even noticing.

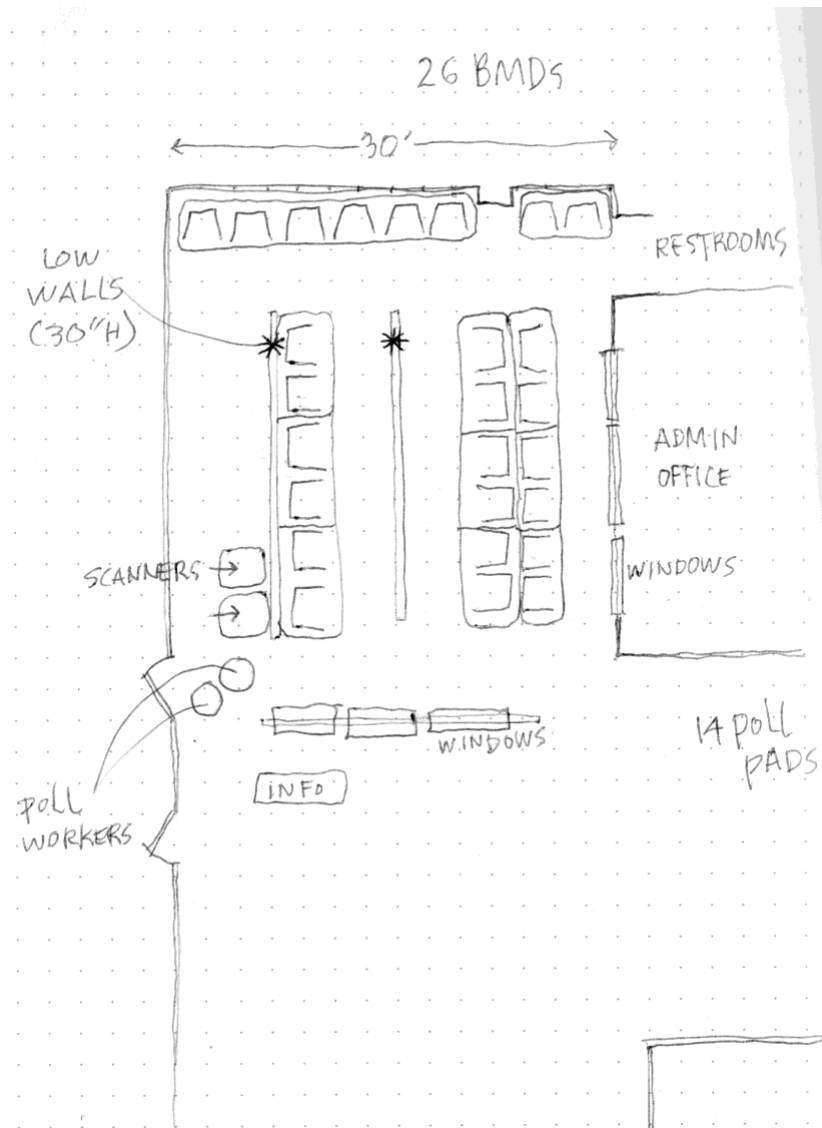
All the BMDs had blue plastic privacy panels around them, but these would do nothing to obscure views of voters' touchscreen choices from one machine to another, or from the nearby office, or from people walking behind other voters going to and from their voting stations. The machines facing the room along the south wall were perpendicular to the others and might have had the very least privacy. If there were many voters around, there would not have been any private spot to vote.

There were two scanners at the front of the room, between the door and the BMDs. A voter would have had to turn his back to the door to put a printout into a scanner, and people walking in the door would be only a few feet away. Two poll workers stood between the door and the scanners. If they had wanted to observe machine tampering or see the counts on the machines, they would have needed to walk up and down the aisles.

An adjoining room seemed to have 14 Poll Pads, but I couldn't get a good view from my assigned spot.

Exhibit 3 page 3

Floor plan of Gwinnett Elections Office polling place made March 5, 2020.



# EXHIBIT 4

Exhibit 4  
Memorial Drive #2 polling place

